

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing Of Claims:

1. (Currently Amended) A method to monitor localization ~~localisation~~, posture, movement or properties of one or several objects ~~[[(O)]]~~ to be monitored, ~~such as human body, animal or robot~~ in an environment to be monitored, ~~such as in apartment, public space, industrial or office space or in an animal shelter~~ characterized in that wherein in some area of the environment to be monitored, ~~for example in a floor, wall, or ceiling~~ there is a transducer ~~(TRANSDUCER MATRIX)~~ which is composed ~~[[from]]~~ of a distribution of conductors, which are electrically insulated from the object ~~conductor, such as a matrix of conductors~~, and said distribution of conductor includes at least ~~the~~ a first division of selectable conductors ~~conductor~~ and ~~[[the]]~~ a second division of selectable conductors, the method comprising the steps of ~~conductor and that a scanning cycle is performed when to the first division of conductor is an excitation signal (HS) connected and the first signal (AS) is derived from a coupling of the excitation signal (HS) between the first and the second divisions of conductor and said signal (AS) includes some information about coupling between the first and the second divisions of conductor~~

a) selecting the conductors of the first division of conductors and conductors of the second division of conductors and connecting an excitation signal to the selected

first division of conductors and performing a scanning cycle of the selected divisions of the selected conductors when the excitation signal is connected to the first division of the selected conductors;

b) deriving a first signal from a coupling of the excitation signal between the first and the second selected divisions of conductors, and processing said first signal to obtain information about impedance of the object for characterization of the object.

2. (Currently Amended) [[A]] The method according to claim 1 wherein said scanning cycle is repeated by selecting the first or second division of conductors to contain one or several conductors other than the conductors of the first or second division of conductors selected during a previous scanning cycle in respect of other divisions of conductor of the transducer (TRANSDUCER MATRIX).

3. (Currently Amended) [[A]] The method according to claim 1 wherein from said first signal ~~[[AS]]~~ one derives ~~[[some]]~~ information about ~~[[some]]~~ essentially internal properties of the object (O) such as electric conductivity and its variations, distributions of tissues in the body, distribution of fluids, function of the heart or respiration.

4. (Currently Amended) [[A]] The method according to claim 1 wherein from said first signal ~~(AS)~~ some information which is characteristic to the object [[O]] is derived,

wherein the information includes ~~such as~~ information about electrical conductivity and variations in that electrical conductivity, and

wherein said information is used in ~~purposes~~ to recognize the object [[O]].

5. (Currently Amended) [[A]] The method according to claim 1 wherein the excitation signal [[HS]] evokes [[the]] a second signal [[IS]] in a special means [[EV]] and the second [[this]] signal is received by a receiving means [[V]].

6. (Currently Amended) [[A]] The method according [[the]] to claim 5 wherein said second signal [[IS]] contains [[some]] information related to the object ~~(O)~~ ~~such as~~ ~~information related to identification or status~~.

7. (Currently Amended) [[A]] The method according to claim 5 [[1]] wherein information derived from one or both of said first and second signals ~~(AS, IS)~~ is evaluated using criteria which are either fixed, preset or adaptable and, based on [[the]] results of the evaluation, ~~one performs~~ the method further comprises performing a known action ~~actions, such as control or alarm functions~~.

8. (Currently Amended) ~~[[A]]~~ The method according to claim 5 ~~[[1]]~~ wherein information derived from one or both of said first and second signals (AS, IS) is stored in memory means in order to observe temporal dependence of behavior ~~behaviour~~ of environments to be monitored and of objects (O) ~~for example in such a way that at certain moment registered information which are derived from one or several signals (AS, IS) is stored and this information is used as reference information at later moments~~ derived information.

9. (Currently Amended) ~~[[A]]~~ The method according to claim 5 ~~[[1]]~~ wherein information derived from one or both of said first and second signals (AS, IS) is used to adapt a status of artificial intelligence ~~such as an adaptive or self organizing net.~~

10. (Currently Amended) An arrangement to monitor localization ~~localisation~~, posture, movement or properties of one or several objects ~~[[O]]~~ to be monitored, ~~such as human body, animal or robot in an environment to be monitored, such as in apartment, public space, industrial or office space or in an animal shelter characterized in that it~~ wherein the arrangement includes:

a) transducer means (TRANSDUCER MATRIX) which is composed of ~~[[from]]~~ a distribution of conductors, which are galvanically isolated from the object, the distribution of conductors ~~conductor~~ including at least ~~[[the]]~~ a first division of selectable

~~conductors conductor~~ and ~~[[the]]~~ a second division of selectable conductors; ~~conductor~~
and

b) means to perform a scanning cycle ~~(CENTRAL UNIT)~~ of the second division of
selectable conductors; ~~[[and]]~~

c) means to generate an excitation signal ~~[[HS]]~~ during the scanning cycle; and

d) means ~~(MULTIPLEXER)~~ to selectively connect ~~conductor~~ said excitation signal
to the first division of selectable conductors ~~conductor~~ of the transducer means;
~~(TRANSDUCER MATRIX)~~ and

e) means to derive a first signal ~~[[AS]]~~ which is related to a coupling between
~~said first and second divisions of conductor~~ through impedance of the object; and

f) means for detecting changes of the impedance of the object to be monitored
for obtaining information about characteristic features of the object to be monitored.

11. (Currently Amended) ~~[[An]]~~ The arrangement according to claim 10
wherein the arrangement further ~~[[it]]~~ includes a signal processing means ~~(CENTRAL~~
~~UNIT)~~ to process the first signal ~~[[AS]]~~ from transducer means ~~(TRANSDUCER~~
~~MATRIX)~~ and to derive information related to properties of the object ~~(O)~~ such as
~~function of the heart, respiration or electric conductivity~~.

12. (Currently Amended) ~~[[An]]~~ The arrangement according to claim 11 ~~[[10]]~~ wherein ~~[[it]]~~ the signal processing means ~~(CENTRAL UNIT)~~ includes means to transfer information derived from an object forward via ~~the~~ a first transmission path ~~such as via~~.

13. (Currently Amended) ~~[[An]]~~ The arrangement according to claim 10 wherein the transducer means ~~(TRANSDUCER MATRIX)~~ ~~include~~ includes components to detect at least two different physical quantities ~~such as electrical coupling and acoustic energy~~.

14. (Currently Amended) ~~[[An]]~~ The arrangement according to claim 10 wherein the first signal ~~[[AS]]~~ produced by the transducer means ~~(TRANSDUCER MATRIX)~~ is based at least partially on an electric field coupling ~~i.e. capacitive coupling~~ between the object ~~[[O]]~~ and the transducer means ~~(TRANSDUCER MATRIX)~~.

15. (Currently Amended) ~~[[An]]~~ The arrangement according to claim 11 ~~[[10]]~~ wherein the signal processing means ~~(CENTRAL UNIT)~~ ~~include some~~ includes means which are capable of performing ~~to perform some~~ adaptive functions ~~such as neural networks~~ or other means ~~[[or]]~~ of artificial intelligence.

16. (Currently Amended) [[An]] The arrangement according to claim 10 wherein the arrangement includes ~~or to it there are attached some means to store~~ spatial information related to the transducer means ~~(TRANSDUCER MATRIX)~~.

17. (Currently Amended) [[An]] The arrangement according to claim 12 ~~[[10]]~~ wherein via the transducer means ~~(TRANSDUCER MATRIX)~~ some information about localization of at least one division of selectable conductors ~~conductor~~ and means to transfer this information is forwarded ~~forward~~ via a second ~~another~~ transmission path such as ~~with the excitation signal (HS) or with a radio signal.~~

18. (Currently Amended) [[An]] The arrangement according to claim 10 wherein the arrangement includes a special means [[EV]], which generates ~~generate~~ ~~an additional~~ a second signal [[IS]] by an effect of the excitation signal [[HS]].

19. (Currently Amended) [[An]] The arrangement according to claim 10 wherein the arrangement [[it]] includes means ~~or to it has been connected means to~~ form a contact via a ~~some other~~ transmission path, ~~such through wired or wireless contact,~~ to be used in receiving or transmitting control information, in receiving or transmitting localization information or receiving or transmitting time information or for other communication with other systems ~~such as with a robot.~~

20. (Currently Amended) ~~[[An]]~~ The arrangement according to claim 18 ~~[[10]]~~ wherein information derived from the first signal, the second signal and/or the excitation signal ~~one or several signals (AS, IS, HS)~~ is used to perform ~~[[some]]~~ control functions with some means of the arrangements ~~or with some attached means, these, wherein~~ the control functions ~~[[may]]~~ include controlling ~~[[of]]~~ a robot, lighting, air conditioning, alarm systems, ~~[[or]]~~ announcement systems or ~~controlling of~~ locking.

21. (Currently Amended) ~~[[An]]~~ The arrangement according to claim 10 ~~in that~~ it wherein the arrangement includes means to derive information characterizing movement of an object (O) ~~such as derive speed distribution of movement or quantities which characterizes that.~~

22. (Currently Amended) ~~[[An]]~~ The arrangement according to claim 10 wherein at least one ~~some of the~~ division distributions of selectable conductors ~~conductor of the transducer~~ means (TRANSDUCER MATRIX) are placed near such surfaces, ~~such as a floor, a wall and or a ceiling~~ surface surfaces, on which or near which an object ~~[[O]]~~ has ~~[[an]]~~ access.

23. (Currently Amended) ~~[[An]]~~ The arrangement according claim 10 wherein at least one division ~~a some of the~~ distributions of selectable conductors ~~conductor of~~

the transducer means (TRANSDUCER MATRIX) are placed near such surfaces of the environment to be monitored ~~such as in surroundings of dangerous or valuable artifacts.~~

24. (Currently Amended) ~~[[An]]~~ The arrangement according to claim 10 wherein at least one division ~~a some of the distributions of~~ selectable conductors conductor of the transducer means (TRANSDUCER MATRIX) is realized by using some conductors which are in construction elements of the environment to be monitored ~~constructions such as concrete iron, air conditioning pipes, water pipes or electric~~ conductors.

25. (Currently Amended) ~~[[An]]~~ The arrangement according to claim 18 wherein the special means includes ~~(EV) include some means, such as a RFID circuit, a~~ transducer or an active circuit, in order to implement information in the second signal ~~[[IS]]~~ generated by the special means.

26. (Currently Amended) ~~[[An]]~~ The arrangement according to claim 18 wherein one or several properties, ~~such as an amplitude or a frequency of the excitation~~ signal ~~[[HS]]~~ are different when an the second signal ~~[[IS]]~~ generated by the special means ~~[[EV]]~~ is evoked referenced to localization of an object ~~[[O]]~~.

27. (New) The method according to claim 1, wherein one or several objects to be monitored include a human body, an animal or a robot.

28. (New) The method according to claim 1, wherein the environment to be monitored includes a residence, a public space, an industrial space, an office space or an animal shelter.

29. (New) The method according to claim 1, wherein the area of the environment to be monitored includes a floor, a wall, or a ceiling.

30. (New) The method according to claim 3, wherein internal properties of the object include an electric conductivity and its variations, a distribution of tissues in a body, a distribution of fluids, or a function of the heart or respiration.

31. (New) The method according to claim 8, wherein at a certain moment registered information which is derived from the first or second signals is stored and this information is used as reference information for derived information at a later moment.

32. (New) The arrangement according to claim 10, wherein one or several objects to be monitored include a human body, an animal or a robot.

33. (New) The arrangement according to claim 10, wherein the environment to be monitored includes a residence, a public space, an industrial space, an office space or an animal shelter.

34. (New) The arrangement according to claim 11, wherein properties of the object include a function of the heart, respiration or an electric conductivity.

35. (New) The arrangement according to claim 12, wherein the first transmission path includes a telephone network or a digital television network.

36. (New) The arrangement according to claim 13, wherein the at least two different physical quantities include electrical coupling and acoustic energy.

37. (New) The arrangement according to claim 23, wherein the environment to be monitored includes an area surrounding a hazardous substance, an area surrounding a piece of artwork or an area surrounding an artifact.

38. (New) The arrangement according to claim 24, wherein construction elements include concrete, iron, air conditioning pipes, air conditioning ducts, water pipes or electrical conductors.

Claim 39 (New): The arrangement according to claim 25, wherein the special means includes a RFID circuit, a transducer or an active circuit.